

#31 Declaration Smw 11-1-02 Patent

Attorney's Docket No. <u>RIC-96-153</u>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
Viet LE et al.) Group Art Unit: 2633
Application No.: 08/923,461) Examiner: M. Sedighian
Filed: September 4, 1997)))
For: METHOD AND SYSTEM FOR	RECEIVED
MODULAR MULTIPLEXING AND	OCT 3 0 2002
AMPLIFICATION IN A MULTI- CHANNEL PLAN) Technology Center 2600

DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner for Patents Washington, D.C. 20231

Sir:

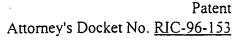
We, Viet Le and Xiaoping Mao, inventors of the subject matter claimed in the abovereferenced application, hereby declare that:

- 1. Two Invention Disclosures, describing the claimed subject matter, were signed by us, and witnessed, prior to September 2, 1997 (See Exhibits A & B).
- 2. A first draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney. A letter, Exhibit C, accompanying and referencing the completed first draft was written by our attorney and sent to MCI Telecommunications Corp.
- 3. In accordance with our comments on the first draft, a revised second draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney and mailed to MCI Telecommunications Corp. A letter written by our attorney and dated prior to September 2, 1997 (Exhibit D) accompanied and referenced the revised second draft Application.

U.S. Patent Application No. 08/923,461 Attorney's Docket No. RIC-96-153

- 4. A third and final draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney. A letter, Exhibit E, accompanying and referencing the completed final draft was written by our attorney and sent to MCI Telecommunications Corp. The letter acknowledges that the final draft has been revised in accordance with our comments to the second draft.
- 5. On September 4, 1997, the above-referenced patent application was filed in the United States Patent and Trademark Office. A letter (Exhibit F), accompanying and referencing a copy of the filed patent application, was written by our attorney and sent to MCI Communications Corp. on September 4, 1997.
- 6. We further declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements made jeopardize the validity of the application or any patent issuing therefrom.

Date: _	04/27/2002	Signature: V	iet Le V
Date: _		Signature:	





IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
Viet LE et al.)) Group Art Unit: 2633
Application No.: 08/923,461) Examiner: M. Sedighian
Filed: September 4, 1997)
For: METHOD AND SYSTEM FOR MODULAR MULTIPLEXING AND AMPLIFICATION IN A MULTI-CHANNEL PLAN	RECEIVED OCT 3 0 2002
DECLARATION UN	DER 37 C.F.R. § 1.131 Technology Center 260

Commissioner for Patents Washington, D.C. 20231

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U.S. Patent Application No. 08/923,461 Attorney's Docket No. <u>RIC-96-153</u>

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- 6. We further declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements made jeopardize the validity of the application or any patent issuing therefrom.

Date: 4/26/2002	Signature: Www.
	Xiaoping Mao
Date:	Signature:

LIST OF EXHIBITS

- A: Copy of a first Invention Disclosure, describing a portion of the claimed subject matter, signed and witnessed prior to September 2, 1997.
- B: Copy of a second Invention Disclosure, describing the remaining claimed subject matter not described by Exhibit A, signed and witnessed prior to September 2, 1997.
- C: Copy of a letter sent to MCI Telecommunications Corp., dated prior to September 2, 1997, which accompanied and referenced a first draft application.
- D: Copy of a letter sent to MCI Telecommunications Corp., dated prior to September 2, 1997, which accompanied and referenced a second draft application.
- E: Copy of a letter sent to MCI Telecommunications Corp., dated prior to September 2, 1997, which accompanied and referenced a final draft application.
- F: Copy of a letter sent to MCI Communications Corp., bearing the date of September 4, 1997, which accompanied and referenced a copy of the patent application that was filed on the same date.

Oceter #: RIC-98-153

MC1 Invention Disclosure Form

EXHIBIT A

tem 1.	Priovide a short, des	criptive title for the inv	rention:	
•	Adaptable Optical	Line Ampiller for Fo	ur-Window Channel Plan	
tem 2.	When and under who of this dute, include		the invention first conceived (if you have ==	y written evidence
tem 34.			e inversion and indicate the contributor's con a a primary contact with an "X" need to the na	
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Phones: 972	1-916-8993 Dep	W.oc: 1167/107 E	Med ID: 286-1809	•
Printed Name	e: Charlin Mao			.:
Phones: 972		الالمد: 1167/107 E	Mail ID: 200-5394	
item 3b.	Provide the manage	ment chain (through \	P) of the originating organization for the inve	ention:
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tem 4a.			lonly to be disclosed in the near fature, outsided alrew, or in a primed publication:	le of MCI, such as
	Yes X	No D	on I know Other	
tom 4b.	If the ensurer to item confidential, sto.	4a is Yee or Don't kn	ow/Other, was the disclosed information quer	lead proprietary,
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item 5.	Identily such serv	rice, metwork	or prod	test which utilizes or may utilize the invention:
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ltem 7.	identify and attac brochures, paters this form:	h copies of a is, publication	ny prici 18. elc.)	r references which may be relevent to the invention (products,), but do not perform a seasch for references in order to complete
ltem 8.	Describe the inve	indon using t	he folio	wing format. Mark each page "MCI Confidential."
PROBLEM:	State the	problem whi	ich mot	trated or required a solution provided by the invention.
	's network uses (atad in Figure 1.	Opticzi Line	Ampili	tera on the same fiber with bi-directional capabilities, as
	Site A			Site B

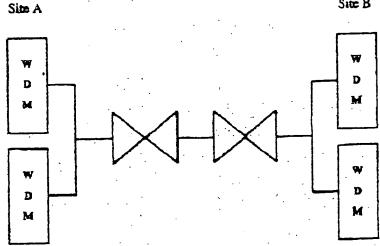


Figure 1: Existing WDM with Optical Line Amplifiers

However, by migrating this network to use the CWDM system, described in RIC-95-151, you eliminate the duplications at the transmission side. Figure 2 represents 2x2 system, CWDM with optical fine amplifiers.

Inventor Signature(s)	Date	Read, understood and witnessed	Oate
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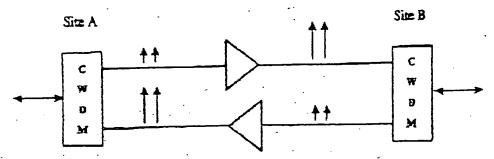


Figure 2: 2x2 Optical Line Amplifiers with CWDM system

However, there will remains one problem; to use 16 channel WDM a 16 channel ampitfler is required. This problem leads to other disadvantages, such as, implementation cost, liber Non-linear thresholds, optimization complications, and limitations on total power (maximum power per wavelength).

SOLUTION:

Describe how the invention qualities as a solution to the problem.

This invention presents a solution to the above problem, by using modular optical line amplifiers along with CWDM system. Figure 3 disetrates this invention.

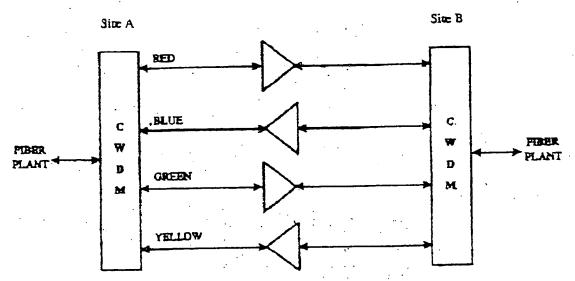


Figure 2: Moduler Optical Line Ampliflers with CWDM system

Each amplifier will optimize its own window. Transmission may be uni-directional (16 channel) or bidirectional (8 channel each direction). Figure 4 represents the amplifier.

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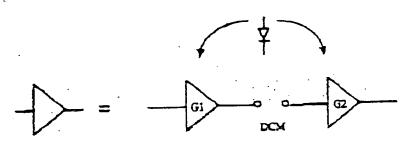


Figure 4: Modular Optical Line Amplifier Design

This invention allows implementation in at different segments, as demanded by traffic, e.g., implement the Red window, and as traffic increases, add the Situs window.

DIFFERENTIATION:

Describe how others have tried to solve the same or similar types of problems, with reference to any prior references you have attached, and how the solution of the present invention differs.

This invention eliminates Four-Wave lithing, and minimizes transient effects, by reducing pump power, and increasing reliability.

IMPORTANCE:

State why this solution (the invention) should be important to MCI.

This invention provides the following advantages for MC:

- Reduce the pump requirements
- · Reduce gain competitions
- Increase throughput per bandwidth
- · Ease of dispersion management
- · Ease of equalization implementation
- Ease of system implementation
- · Flexibility

DRAWING:

Provide at least one Businetive drawing, achemitic, block diagram or flow chart (rough, hand drawn illustrations are OK).

XEYWORDS:

List some related key words to tactitude searching for this disclosions at a later time.

WDM, modular WDM, tour-window channel plan, Option Line Amplifier

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MCI Invention Disclosure Form

EXHIBIT B

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tem δ.	Identify each service, network or product which utilizes or may utilize the invention:
	Network Provisioning Transmission Network Architecture/infrastructure
item Sa.	Have there been any attempts to demonstrate, publicly use, market or sell the service or product:
•	Yes No X Don't know/Cither
item 6b.	If the answer to item to is Yes, give the date and a description of each such attempt:
Item 7.	Identity and attach copies of any prior references which may be relevant to the invention (products, brochimes, patents, publications, sto.); but do not perform a search for references in order to complete this form:
item 8.	Describe the invention using the following format. Mark sech page "MCI Confidential."
PROBLEM:	State the problem which motivated or required a solution provided by the invention.
optica 8, and capac crowd	ength Dissision Multiplexing (WEM) is used in an optical communication network, to send multiple is carriers along the Eber, at different wavelength. The existing WDM Chennel Plan consists of 2, 4, 16 wavelength channel plans, within the orbital band, 1530 to 1560 nm. Therefore, for mediature ity, it is desirable to use the 16-Wavelenth channel plan. However, the problems associated with ling the channel plan are, amplification, equalization, non-linear interference, receiver selectivity, ansmitter stability.
•	
SOLUTION:	Describe how the invention qualifies as a solution to the problem.
	nvention presents a solution to the above problem, by introducing a new WDM communications in that can beer several optical carriers without introducing significent algual degredation or ing expessive operating costs. It introduces a new 16-Wavelangth channel plan division, and WDM in.

This invention divides the 16-Wavelength channel plan into 4 windows: Red (1830 to 1535 nm), Blue (1636 to 1547 nm), Green (1549 to 1554 nm), and Yellow (1595 to 1560 nm), i.e., there are 4-windows with 4 wavelength in each. The new WDM system is a modular system, allowing implementation based on the wavelength divisions. Figure 1 Mostrates the CWDM system (modular system).

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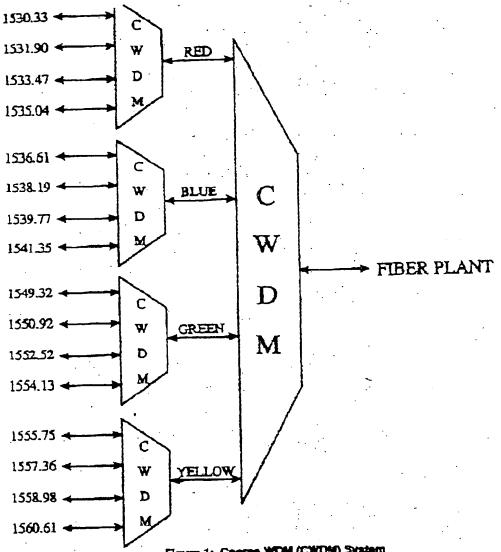


Figure 1: Coerse WDM (CWDM) System

As seen from the above figure, the first system breaks the 15 wavelengths into the 4-window groups. Then, the second C'8'OM breaks the window down to individual wavelengths. This is a spotein system, since it allows socioable implementation, e.g., first implement the Rad window, implement additional correponents as future demands become apparent. It is important to note that each window but bidirectional transmission capabilities.

Describe how others have tried to solve the same or similar types of problems, with reference to DIFFERENTIATION: any prior references you have attached, and how the solution of the present invention differs.

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MCI Confide

IMPORTANCE:

State why this solution (the invention) should be important to MCI.

This invention provides the following adventages for MC:

- Cost Reduction—No need to implement the system all at once, and with migration changes, no need to change the WDM system.
- Use of Existing Equipment—MCI will use existing lesers, even with migration to new channel
- Moduler Design and Implementation—MCI will be able to apprace from 4-channel WDM up to 16 channel without purchasing, planning, and implementing all the systems at once.
- . Released Requirements—Filter and WDM devices requirements will be ensist, date to essist gein/squalization management of ameli groups of wavelengths, and certier separation.

DRAWING

Provide at least one likestrative drawing, schematic, block diagram or flow chart (rough, hand drawn Musications are OK).

KEYWORDS:

List some related key words to facilitate searching for this disclosure at a later time.

WDM, modular WDM, four-window charanti plan

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Via Federal Express

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Mr. Viet Le
Mr. Charlie Mao
MCI Telecommunications Corporation
2400 North Glenville Drive
Dept. 1167/107
Richardson, IX 75082



Re:

Draft U.S. Utility Patent Application
For: Method and System For Modular Optical Line Amplification
Inventors: Viet Le et al.
MCI Ref: RIC-96-153

MCI Ref: RIC-96-153 SKGF Ref: 1575.2550000

Dear Gentlemen:

Enclosed please find a first draft of the above-captioned patent application. Please review this draft application and make any necessary changes. Do not heritate to comment or question anything in the draft application or the drawings. It is extremely important that any technical issues with respect to the specification be identified so that they may be addressed before filing the application at the U.S. Parent and Trademark Office (USPTO). Please be very critical in your review as we want to accurately and completely capture all facets of the invention.

Present to standard MCI policy, we request that you complete your review and provide us with your comments by two weeks from the date of this letter. Please connect us immediately if it is not possible to meet this goal. Upon receiving your comments, we will send in you a final

STEEME, RESSLERE, GOLDSTEIN & FOX P.L.L.C.

Mr. Viet Le Mr. Charlie Mao

Page 2

application via MCI patent engineer, Ms. Atousa Raissyan. Of course, the final application is subject to any additional comments from you.

For your information, we have enclosed a memo with an explanation of the parts of the application.

We still need further inventor information for Mr. Viet Le. For your convenience, we have included an Inventor Information Table. Please return this information at your earliest convenience to us via email or facsimile. This information is needed in order to prepare the Declaration and Assignment forms which you will execute before filing the application in the U.S. Patent and Trademark Office.

USPTO Rules require that we disclose to the Examiner all information that we know of that is material to the patentability of the invention. This is called the "Duty of Disclosure." We have enclosed a memo with an explanation of the Duty of Disclosure. The Duty of Disclosure remains in effect until the issuance of a patent. Failure to disclose all material information to the Examiner may cause a court to hold the patent invalid. We therefore request that you and anyone else substantively involved in the patent application process forward to us any information known to be material, so that we can submit it to the Examiner. The Rules of Practice encourage all Information Disclosure Statements (IDS) to be filed within three months of the filing of the application. In any event, it is important that an IDS be filed before the Examiner first acts on the case, if there is information to submit.

If you have any questions or comments concerning this application draft, please do not hesitate to call. We look forward to receiving your comments.

Very truly yours,

Sterne, Kessler, Goldstein & Fox P.L.L.C.

Michael V. Messinger

MVM:jad Enclosures

cc. Patent Engineer (wiencleasures)
Ms. Andrea Cure (wie condenses)

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HICHAEL A. RAMMAN'
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HOEL R. TOISTHIG"
JEPTREY T. HELDTY

CODIALD J. FEATHERSTONE LANGUAGE R. BUGLASHYAN KAREN R. MARKENSKYN FAMILIAN R. TOWNERS

SAN OTHER THAN G.C.

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(202) 371-2667

mikem@skyf.com

Via Federal Express

Mr. Frank A. McKlel
Patent Engineer
MCI Telecommunications Corporation
2400 North Glenville Drive
Richardson, TX 75082.

MCI CONFIDENTIAL

Re:

Final U.S. Patent Application

For: Method and System for Modular Multiplexing and

Amplification in a Multi-Channel Plan

Inventors: Viet Le et al. MCI Ref.: RIC-96-153 Our Ref.: 1575,2550000

COPY

Dear Frank:

Enclosed is a final parent application for the above-referenced invention. Also enclosed are a completed Declaration and Power of Amorney form, and a completed Assignment form. As agreed upon by the inventors and Ms. Tammy Williams, this final application contains the combined subject matter of two cases (MCI Ref. Nos. RIC-96-151 and RIC-96-153).

The application has been revised in accordance with your comments and the comments of wis inventures. Thus, the application should now be in a condition for filing with the U.S. raters and Trademark Office (USPTO).

We request that you and the inventor(s) review the enclosed application. If the application meets with the approval of all of you, then we request that you have the inventor(s) review and execute the Declaration and Power of Amounty and the Assignment. Please have the inventor(s) enser the respective dates that they each executed the Declaration and Power of Amounty isno the appropriate spaces of the Assignment.

STERNE. RESSLER, GOLDSTEIN & POX PLLC.

Mr. Frank A. McKiel

Page 2

Then, please return the application and the executed formal documents to us so that we may file them with the USPTO.

Our goal for filing this application is Thus, we request that these papers be sent to us for filing with the USPTO as soon as possible.

USPTO Rules require that we disclose to the Examiner all information that we know of that is material to the patentability of the invention. This is called the "Duty of Disclosure." The Duty of Disclosure remains in effect until the issuance of a patent. Failure to disclose all material information to the Examiner may cause a court to hold the patent invalid. We therefore request that you, the inventor(s), and anyone else substantively involved in the patent application process forward to us any information known to be material, so that we can submit it to the Examiner. The Rules of Practice encourage all Information Disclosure Statements (IDS) to be filed within three months of the filing of the application. In any event, it is important that an IDS be filed before the Examiner first acts on the case, if there is information to submit.

Please contact us if you have any questions or comments regarding the foregoing. Thank you.

Very truly yours.

STERNE, KESSLER, GOLDSTEIN & FOX

Michael V. Messinger

MVM/jmhi Enclosures

ca: Ms. Andres Caro (w/o enclosures)

EXHIBIT E

HOO NEW YORK AVENUE, N.W. WASHINGTON, D.C. 20008-3934

> 205 37- ce00 FACSIMAC (2021, 37M4540

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mikem@skgf.com

Via Federal Express

Mr. Frank A. McKlel Patent Engineer MCI Telecommunications Corporation 2400 North Glenville Drive Richardson, TX 75082

MCI CONFIDENTIAL

Final U.S. Patent Application

For: Method and System for Modular Multiplexing and

Amphilication in a Multi-Channel Plan

Inventors: Vict Le et al. MCI Ref.: RIC-96-153 Our Ref: 1575.2550000

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The application has been revised in accordance with your comments and the comments of the inventors. For your convenience, we enclose a red-lined version comparing this final Thus, the application application with the previous application sent to you on should now be in a condition for filing with the U.S. Patent and Trademark Office (USPTO).

STREME, KESSLER, GOLDSTEIN & FOX PLLC.

Mr. Frank A. McKiel

Page.2

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Our goal for filing this application is . Thus, we request that these papers be sent to us for filing with the USPTO as soon as possible.

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Please contact us if you have any questions or comments regarding the foregoing. Thank you.

Very truly yours,

STERNE, KESSLER, GOLDSTEIN & FOX

Michael V. Messinger

MVM/jmh Enclosures

cc: Michael E. Melton (w/o enclosures)



SUITE BOD

HUU NEW TORK AVENUE, N.W. WASHINGTON, D.C. 20005-3934

> (202) 371-3000 * FACSHING (202) 371-2840

BORENT GREENS STORME COMMO J. KESALES JORGE A GOLDSTEIN SAMUEL L FEE Dans 43. Co-HOMENT W. ESWONG TRACT-GOIL G. DVALLE HIGHELE A. CINEALA HIGHAEL B. PAY HOBEST'E, SORGHE EMC A STEFFE ANDREA G. REISTER

MINUS C. ALLISON Y MICHAEL O. LEC JOHN M. COVERT MRS 3400H LINGA & ALCOOM PAS & FLORIDGE RESERT C. HILLSHIG STEWNS R LUNWIG MICHAEL V. HESSINGER Jugish U. Kim'

HEITE SIGO". Timotur J. SHEA, JR. DOUBLE & MCPMALL PATRICE E. GARRETT JEFFREY W. RENNCERER BARBARA A PARMS MICHAEL A RAHHAM STEPHEN & WHITEHOUT MOSE & WHITEY RICH A. TOERING" JEFFREY T. MELVEY"

September 4, 1997

MO J. FRAMERSTON PETADUS & YOURSHALL KAROKEUM M. TROWEY

**RECONTERED PAPOR MEMT

WRITER'S DIRECT NUMBER

(202) 371-2667 HYDAREY AGGREES:

mikem@skxf.com

Michael Melton, Esquire Associate Technology Counsel - Chief Patent Counsel Technology Department Law and Public Policy MCI Communications Corporation 1133 19th Street, N.W. Washington, D.C. 20036

Re:

U.S. Non-Provisional Utility Patent Application

Appl. No.: to be assigned; Filed: September 4, 1997

For: Method and System for Modular Multiplexing and

Amplification in a Multi-Channel Plan

Inventors: Viet Le et al. MCI Ref.: RIC-96-153 Our Ref: 1575.2550000

Dear Michael:

We are pleased to report the filing of this application, on September 4, 1997, along with the following documents:

U.S. Utility Patent Application entitled:

Method and System for Modular Multiplexing and Amplification in a Multi-Channel Plan

STERME, KESSLER, GOLDSTEIN & FOX PLLC.

Michael Melton, Esquire September 4, 1997 Page 2

and naming as inventor:

Viet Le and Xiaoping Mao

the application consisting of:

- A specification containing:
 - (a) 15 pages of description prior to the claims;
 - (b) 15 pages of claims (40 total claims and 5 independent claims); and
 - (c) a one (1) page abstract;
- 2. 4 sheets of informal drawings: (Figures 1-4); and
- 3. An original executed combined Declaration and Power of Attorney;
- 4. Form PTO-1082 (in duplicate);
- Cover letter for Assignment (Form PTO-1595);
- 6. An original executed Assignment to MCI Communications Corporation;
- 7. Please charge to MCI Deposit Account No. 13-2491 for \$1.410.00 to cover:

\$770.00 Filing fee for patent application;

\$440.00 Claim fee for claims in excess of twenty.

\$160.00 Claim fee for independent claims in excess of three; and

\$40.00 Assignment recordation feet and

8. Three (3) return post cards.

Copies of the documents as filed are enclosed for your records.

Please note that certain countries are not members of the Paris convention. Non-Paris convention countries do not recognize any United States filing as a priority document and the filing of the application in the United States may not provide protection in such countries. Therefore, if you have any interest in filing in any non-Paris convention country, please let us know prior to any disclosure (written, oral, or electronic) of the subject matter.

STREET, KESSLER GOLDSTEIN & FOX PLLC.

Michael Meiton, Esquire September 4, 1997 Page 3

Please be reminded that the duty of disclosure continues throughout the entire patent application process, and ends only with the actual issuance of a patent. Therefore, if you or anyone else substantively involved in the parent application process becomes aware of information that might be considered material, please forward it to us immediately. We can then submit it to the patent examiner for his consideration. The PTO rules of practice encourage an Information Disclosure Statement (IDS) to be filed within three months of the filing of the application. In any event, it is crucial that an IDS be filed before the examiner first acts on the case, if there is information to submit.

If you have any questions or comments, do not hesitate to contact us.

Very truly yours,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Michael V. Messinger

MVMtjish Encioswas

CC: Carl Evens

AMERICALLINES STEEL STORES



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	
Viet LE et al.) Group Art Unit: 2633
Application No.: 08/923,461) Examiner: M. Sedighian
Filed: September 4, 1997)
For: METHOD AND SYSTEM FOR MODULAR MULTIPLEXING AND AMPLIFICATION IN A MULTI-CHANNEL PLAN))))

TRANSMITTAL LETTER FOR DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner of Patent and Trademarks Washington, D.C. 20231

Sir:

Enclosed are two Declarations Under 37 C.F.R. § 1.131 and a List of Exhibits A through F for the above-identified patent application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Declaration Transmittal Letter Serial No. 08/923,461 Attorney's Docket No. <u>RIC-96-153</u> Page 2

Reg. No. 43,367

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1070.

Respectfully submitted,

HARRITY & SNYDER, L.L.P.

Reg. No. 43,417

11240 Waples Mill Road Suite 300 Fairfax, Virginia 22030 (571) 432-0800

Date: May 7, 2002